DECISION MEMO

MILLSTECK LARGE WOOD ADDITIONS PROJECT

U.S. FOREST SERVICE

MARIENVILLE RANGER DISTRICT

ALLEGHENY NATIONAL FOREST

MILLSTONE TOWNSHIP, ELK COUNTY, PENNSYLVANIA

JENKS TOWNSHIP, FOREST COUNTY, PENNSYLVANIA

BACKGROUND

Five streams (Gurgling Run, East Branch Millstone Creek, Steck Run, Church Run and Winlack Run) and their tributaries on the Marienville Ranger District, Allegheny National Forest currently lack enough large wood to create quality pools, slow flood flows, or store sediment and organic debris. The addition of large wood to these stream channels will also store organic matter and nutrients, which, in turn, will help reduce the presence of toxic dissolved inorganic aluminum in these streams, and increase the biological diversity and abundance in these streams. One of the goals and objectives of the Forest Plan is to provide a sustainable supply of large wood to streams (75 to 380 pieces per stream mile). The project is in Management Areas 2.2 – Late Structural Linkages and 3.0 – Even-aged Management. The table below, along with the attached maps, shows the locations of the project proposals.

Stream	Miles	Warrants	Township	County
Gurgling Run	2.8	4134, 4135	Millstone	Elk
		4130, 4136	Jenks	Forest
East Branch Millstone Creek	2.8	4129, 4135	Millstone	Elk
		4130	Jenks	Forest
Steck Run	1.7	2362, 2369, 2667	Millstone	Elk
Church Run	1.5	2581, 2596, 2792, Robert Allison	Millstone	Elk
Winlack Run	0.5	2542, 2543	Millstone	Elk

A severe flooding event occurred on Winlack Run on June 13, 2019. This flood event caused the stream materials placed in the newly installed culvert on Township Road 302 to get flushed out and caused erosion of the channel over 0.5 miles of stream. If large wood structures had been placed in the stream corridor upstream of this culvert, they could have reduced the severity of the flood damage by diverting the peak flows and slowing the velocity of the water. The culvert at Gurgling Run on Forest Road 131 is to be replaced in the future. Large wood structures on this stream would also help protect the culvert at

Gurgling Run on Forest Road 228. Millstone Township is also planning on replacing the culvert at Church Run on the River Road in the future. Large wood structures in the headwaters of this stream would help to reduce flood peaks on Church Run.

DECISION

My decision is to allow the felling up to 70 trees per mile into these five streams and their tributaries (9.3 stream miles total) and onto their floodplains to reduce flood peaks by diverting flows to side channels and improve stream habitat.

- Level 1 treatments would use chainsaws only to fell trees into stream channels.
- Level 2 treatments would use a combination of chainsaws and a grip hoist or winch to place the wood in the channels. Some minor disturbance of the organic layer of the soils would be caused where the grip-hoist or winch is used to position the large wood in the stream channel.

Heavy equipment will not be used for this project. Except for operational safety, live hemlock or white pine will not be felled for this project.

Stream	Level 1	Level 2	Total (miles)
Gurgling Run	0.7	2.1	2.8
East Branch Millstone Creek	2.6	0.2	2.8
Steck Run	1.1	0.6	1.7
Church Run	0.4	1.1	1.5
Winlack Run	0.0	0.5	0.5
Total	**4.8**	**4.5**	**9.3**

This action is categorically excluded from documentation in an environmental impact statement or an environmental assessment. The applicable category of actions is identified in agency procedures as 36 Code of Federal Regulations 220(e)(6) "Timber stand and/or wildlife habitat improvement activities that do not include the use of herbicides or do not require more than 1 mile of low standard road construction."

I find that there are no extraordinary circumstances that would warrant further analysis and documentation in an environmental assessment or environmental impact statement. I considered resource conditions identified in agency procedures that should be considered in determining whether extraordinary circumstances might exist:

- Federally listed threatened or endangered species or designated critical habitat, species proposed for Federal listing or proposed critical habitat, or Forest Service sensitive species – The Endangered Species Act requires that federal activities do not jeopardize the continued existence of any species federally listed or proposed as threatened or endangered or result in adverse modification to such species designated critical habitat. There is no critical habitat for any federally proposed or listed threatened or endangered species on the Allegheny National Forest.

Potential effects of the decision on federally listed species have been analyzed and documented in a brief project biological assessment/evaluation. The analysis finds there would be a 'no effect' determination for the small whorled pogonia, northeastern bulrush, northern riffleshell, clubshell, snuffbox, sheepnose, rayed bean, and rabbitsfoot where individuals have not been documented and/or suitable habitat does not exist (for these species).

The northern long-eared bat was listed by the U.S. Fish and Wildlife Service as "threatened" under the Endangered Species Act on April 2, 2015. The project biological assessment has determined that activities "may affect, likely to adversely affect" the northern long-eared bat and will not jeopardize the continued existence of the species. Project activities are consistent with the U.S. Fish and Wildlife Service programmatic biological opinion on implementing the final 4(d) rule as well as activities that do not require special exemption from taking prohibitions applicable to the northern long-eared bat (USDI-FWS 2016a). Therefore, any taking that may occur incidental to project activities is not prohibited under the final 4(d) rule (50 CFR §17.40(o); USDI-FWS 2016b) and the U.S. Fish and Wildlife Service programmatic biological opinion satisfies the Forest Service's responsibilities under the Endangered Species Act section 7(a)(2) relative to the northern long-eared bat for this project.

The primary factor cited in the proposed listing rule responsible for the decline of northern long-eared bat populations is white nose syndrome. The U.S. Fish and Wildlife Service (2013) determined that although several activities, such as construction of physical barriers at cave accesses, mining, development, and timber harvest may modify or destroy northern long-eared bat habitat, these activities alone do not have significant, population-level effects on the species.

The impacts of the project on individuals and habitat is not considered to be significant and not expected to adversely affect the conservation and recovery efforts for the species for several reasons, including but not limited to the following:

a. The U.S. Fish and Wildlife Service "anticipate[s] that habitat modifications resulting from forest management and silviculture will not significantly affect the conservation of the northern long-eared bat. Further, although activities performed during the species' active season [non-hibernation season: April 1–November 14] may directly kill or injure individuals, implementation of the conservation measures provided for in the interim 4(d) rule will limit take by protecting currently known populations during their more vulnerable life stages." (USDI-FWS 2015).

b. Conducting tree removal outside the hibernation period could conceivably result in direct mortality or injury to northern long-eared bat by incidental felling of roost trees, particularly if non-volant bats are present. In areas of extensive intact forest, the likelihood that a given harvest will result in the loss of a maternity colony is small. Suitable habitat, as well as potential maternity roosts and day roosts, are abundant and widely distributed across the watershed where this project is located. Additionally, there are well over 18.9 million potential roost trees on the Allegheny National Forest (Miles 2015).

c. This project will provide protection for the northern long-eared bat during its most sensitive life stages. There are no known occupied maternity roosts in the project area, and there are no activities proposed within ¼ mile of known hibernacula. Should maternity roosts be found in the vicinity of these proposed activities in the future, conservation measures will be applied to protect maternity roosts during the pup season.

d. Forest Plan standards and guidelines implemented for Indiana bat (USDA-FS 2007a, pages 81-82) will minimize potential harm or harassment to this species and retain key habitat components at the stand and landscape level.

Forest Service Manual 2670 requires analysis of potential impacts to sensitive species, those species for which the Regional Forester has identified population viability is a concern. On January 8, 2018, the Regional Forester approved the updated Regional Forester Sensitive Species list for the Allegheny National Forest. Potential effects of this decision on sensitive species have been analyzed and documented in a brief biological evaluation. For one Regional Forester Sensitive Species (little brown bat), this decision "may adversely impact individuals, but is not likely to cause a loss of viability in the Planning Area, nor cause a trend toward federal listing." The Millsteck Project survey records indicate multiple occurrences of *Eriophorum tenellum* (rough cotton-grass), a Regional Forester Sensitive Species. On December 10, 2019, the district botanist visited three out of nine locations identified as *Eriophorum tenellum* populations. *E. tenellum* could not be relocated; however, other species of *Eriophorum* were present. The Forest Service will resurvey all locations previously identified as rough cotton-grass populations prior to ground disturbance. Surveys shall be conducted from mid-June to mid-August to accurately identify plants in the *Eriophorum* genus to species. If rough cotton-grass is found, Forest Plan standards and guides will be followed to avoid adverse impacts during implementation. With implementation of project design features, Forest Plan standards and guidelines, and Pennsylvania best management practices, the analysis indicates that there would be "no impact" to the other 68 Regional Forester Sensitive Species.

- Flood plains, wetlands, or municipal watersheds – There are no municipal watersheds within or near the project area. This decision includes activities within floodplains and wetlands. The addition of large wood would cause minor temporary disturbances within floodplains and wetlands. However, floodplain-related and wetland-related impacts would be minimal and none of the potential impacts would impair the function of the floodplains or wetlands. Forest Plan standards and guidelines, Pennsylvania best management practices, and project design features will be followed to ensure that floodplain-related and wetland-related impacts are minimized. The appropriate permits will be obtained for the activities within floodplains and wetlands.

- Congressionally designated areas such as wilderness, wilderness study areas, or national recreation areas – There are no wilderness, wilderness study areas of national recreation areas near the proposed project area. This decision is not located near the Allegheny Wild and Scenic River. Church Run is a tributary of the Clarion Wild and Scenic River. The remaining streams are tributaries of streams that drain into the Clarion Wild and Scenic River. Forest Plan standards and guidelines, Pennsylvania best management practices, and project design features will be followed to ensure that impacts to the Clarion Wild and Scenic River are minimized. None of the proposed large wood additions are located within the Clarion Wild and Scenic River corridor (Management Area 8.1).

- Inventoried roadless areas or potential wilderness areas – There are no inventoried roadless areas or potential wilderness areas near the proposed project area.

- Research natural areas – There are no research national areas near the proposed project area.

- American Indians and Alaska Native religious or cultural sites – No tribal concerns were identified.

- Archaeological sites, or historic properties or areas – No historic properties will be affected by this project.

PUBLIC INVOLVEMENT

The scoping proposal was sent to interested individuals and organizations on the NEPA mailing list on October 29, 2019 and asked for comments to be returned by December 2, 2019. The proposal was posted to the Allegheny National Forest website on October 30, 2019, and a news release on the scoping proposal was sent to local media on November 15, 2019.

Eight individuals and organizations submitted comments during the scoping period. Five respondents expressed support for the project. Four identified concerns regarding a variety of subjects. A brief summary of the concerns identified, and our response, is provided below.

Need for the Project

Concerns were expressed that the project isn't needed to improve brook trout habitat because the habitat is being degraded by other causes, and recent flooding has improved it. Based on our knowledge and research, we believe the project is needed for the following reasons:

- All these streams currently lack the large woody material component normally found within mature, forested landscapes, as do many other streams on the Allegheny National Forest, due to previous timber harvesting practices that took place from the early 1800s to 1900s. The Allegheny National Forest is a second growth, even-aged forest, and there are opportunities to speed up the recruitment of large wood into streams. Large wood placement is a primary method for reintroducing structure into stream channels that have been simplified due to past practices. In 2016, the U. S. Army Corps of Engineers and the U. S. Department of the Interior Bureau of Reclamation published a National Large Wood Manual to assist in assessing, planning, designing, and maintaining large wood in streams and rivers (USBR and ERDC 2016). This manual addresses the benefits of large wood in streams and describes the specific methods and considerations for large wood restoration.

- Large wood is a critical aspect of the forest stream ecosystem and important for the survival of trout and other aquatic creatures. Large wood diverts water flow, changes water velocity to trap sediment, and creates cascades and riffles increasing oxygen in the water. Large wood helps form deeper pools where the fish can survive the summer heat and provides shade to reduce the water temperature. The logs and brush add structure to streams, provide escape cover, and collect organic matter (leaves and twigs). Leaves and twigs feed insects and invertebrates – the food source for brook trout and other native fish. The concentration of essential nutrient elements increases considerably as large pieces of wood decompose providing improved habitat conditions for the fish and other aquatic creatures.

- Restoration of large wood levels would, in the short and long term, directly benefit juvenile and adult fish by creating larger lateral pools for rearing and resting and additional side channel over-wintering habitat. Montgomery and others (1995) documented that as the frequency of large wood increased within stream channels, both pool frequency and depth increased. In addition to increased pool frequency and depth, restoration of large wood levels benefits adult and juvenile trout by increasing hiding cover and retention of other organics (Cedarholm and others 2000). Large wood placement would also provide roughness elements that would help regulate bed load movement of the stream channel and fine sediment deposition on the flood plain through time.

Log jams or complexes would also assist in the regulation of water velocity and infiltration of water on floodplains, which would help reduce downstream flooding.

- Scouring from recent storm events destroys quality aquatic habitat, increases downstream flooding, and has negative downstream impacts to water quality. The large wood projects would help rebuild stream channels with gravel and organics so that flood waters can spread out on the flood plains and infiltrate into the ground water. This project will improve aquatic habitat and water quality.

Lime Application

It was suggested that liming would be a more effective way to improve pH. We agree that liming can be effective and may consider it in the future. It was not included in our proposed action, however, because changing stream acidity is not the main goal of this project. The purpose and need is to restore large wood and the valuable habitat it provides, which is something that cannot be accomplished with liming.

We apologize for any confusion regarding the purpose of this project and realize that highlighting stream acidity in our scoping letter may have created the impression that our primary goal relates to acidity. Acidity is a concern, but it was not intended to be the driving force behind our proposal. Nonetheless, we do expect to see some improvements here as the proposed action is implemented, and have several other activities in place to address stream acidity across the forest:

- Four acid remediation ponds (three in the Big Mill Creek watershed and one in the Bear Creek watershed) have been constructed on the Allegheny National Forest and are currently buffering those streams.
- In the Otter project, lime application is being proposed on 16 stands (272 acres). Stands were selected that would have the greatest benefit to stream water quality and soils with low buffering capacity.
- High quality (limestone) road surfacing is also applied on roads near stream courses and crossings to reduce the risk of sedimentation and helps with buffering of streams.

Timber Harvesting

It was suggested that recent timber harvesting may be the source of both recent flooding and the overall lack of large wood, and we were asked whether this concern would be addressed in future projects.

Stream conditions in the project area, and recent flooding events, are unrelated to timber harvesting.

- There hasn't been any recent timber harvesting in the vicinity of Winlack Run or Church Run. The last timber harvest occurred in 2005 and focused on the removal of primarily windthrown trees.
- The flooding that occurred on June 13 and October 31 was due to extreme rainfall amounts in a short period of time. The rainfall exceeded the amount that could be absorbed by the vegetation or infiltrate into the ground.

We routinely consider effects on stream flow when planning and implementing timber harvests. As part of that process, we identify small watersheds where timber harvesting may occur and make sure we don't harvest more than 25 percent of the basal area within any given five-year period. This

design feature helps to prevent timber harvesting from causing measurable changes to streamflow and will be applied to these areas in the future.

Stream Gradients

It was suggested that felling trees for large wood restoration is not appropriate for streams with a gradient of more than 5 percent. We agree that working with steeper streams can present challenges since stream flow and power can lift and move large wood. Our project, however, will follow established guidelines used to place large wood from a manual developed in Oregon (ODFW 2010). In particular:

- Large wood will primarily be placed in the segments of the streams that have gradients ranging from 1 to 5 percent. For streams less than 10 feet wide, we may work on segments that have gradients up to 12 percent. For streams ranging in bankfull width of 10 to 20 feet, we will work on segments that have stream gradients up to 8 percent.

- To make sure that the wood introduced remains in place, we will use key pieces that have a diameter and length that provide suitable ballast based on stream size to keep the wood from becoming mobile.

Water Temperature

It was suggested that diverting the flow of water could increase stream temperature. Water diversion will primarily occur only during peak flooding. As a result, no measurable increases to water temperature are anticipated. Where flood flows are diverted onto floodplains, water will be allowed to infiltrate and store it in the groundwater, which will release cooler waters into streams throughout the summer.

Large Wood Introduction Can Impair Fishing and Other Activities

It was suggested that large wood introduction can prevent fishing and other activities from occurring. Activities that occurred along Thundershower Creek and Meade Run were mentioned as examples. We agree that large wood projects can make it more difficult to access certain locations for fishing and other activities. At the same time, however, these projects are needed to improve habitat, which will improve opportunities for fishing in other locations along each stream. These streams may be more difficult to fish the first year or two after implementation, but the fishing conditions will improve as the wood ages and settles into the channel. Additional benefits to aquatic habitat from large wood were discussed earlier in the comments.

Water Quality Standards, and Coordination with State Agencies

It was suggested that water quality standards apply to these streams, coordination with state agencies is needed, and additional NEPA analysis should occur. We agree that water quality standards apply and regularly coordinate with state agencies before implementation of any in-stream activity.

- Large wood placement projects are required to maintain or improve the applicable water quality standards.

- Before the project is implemented, we will apply for permits from the Pennsylvania Department of Environmental Protection and the Pennsylvania Fish and Boat Commission. Design features to protect water quality will be incorporated as part of the permitting process.

Other Recent Projects

It was mentioned that there are several differences between the proposed action in this project and the activities proposed in other recent projects (Otter and Cherry Run, in particular). We agree and would like to explain why they differ.

This project proposes to fell trees using chainsaws and grip hoists or winch. No heavy equipment will be used. In contrast, Cherry Run and Otter include the use of heavy excavators and allow the felling of more than double the number of trees per mile as we are proposing here.

Projects that rely solely on hand tools, chainsaws, grip hoists, and winches present minimal to no effect on soils in the area. These methods, however, are only suitable for use on smaller streams. Based on the size of the streams in this project, we can make use of these methods and will not need to use heavy equipment.

Projects like Cherry Run and Otter occur on larger streams and will sometimes require the use of heavy equipment as a result. This equipment has greater potential to effect soils, but several measures are in place for both short and long-term protection. For example:

- Using designated stream crossing areas for equipment.
- Working in low flow conditions, minimizing the time in the channel, and stabilizing and seeding soils.
- As much soil, as possible, is removed from the root wads with the excavator before they are placed in the stream. This action mimics the natural occurrence of trees uprooting into streams as the stream migrates.

An Environmental Assessment Needs to be Prepared

It was suggested that an environmental assessment should be prepared for this project. As discussed in the decision made above, we have determined that this project can be categorically excluded from preparation of an environmental assessment. If new information or changed circumstances are identified in the future, we will follow agency policy to prepare a supplemental information report or a new NEPA analysis.

Only standing dead/dying trees with no merchantable value be cut

It was requested that only standing dead/dying trees with no marketable value be cut for this project. It was suggested that there may be sufficient dead/dying ash and cherry and low-grade pulpwood to supply the trees needed for this project. The project proposes felling live and dead trees and using trees of various sizes because a diversity of materials will result in more diversity of habitat and more diversity of aquatic life. Dying trees and low-grade pulpwood that are near the stream will be used as much as possible. However, dead trees will decay faster and will not provide the long-term benefits to the stream and can be hazardous to fell. In addition, dead trees tend to break apart when they are felled and will not be stable in the log jam. Since management activities within the riparian corridor should be for the benefit of riparian dependent resources, the best use of the live merchantable trees would be to mimic natural processes and place this wood into the stream channel. As mentioned above, this need for large wood in streams is a result of a legacy of removal of trees along streams and clearing large wood from streams, which predates the Allegheny National Forest, but is still a factor in restoration effects.

An alternative to paying for the cutting and moving of trees into the streams

An alternative to paying for the cutting and moving of trees into the streams was suggested. This alternative would include using a timber sale surrounding the project areas and have the timber sale contractor drop/move tops and non-marketable wood into streams at the appropriate sections. This proposal would be applicable where timber stands are approved for treatment near a stream we plan to treat and would make a good stewardship proposal. We will pursue this opportunity where the scheduling of large wood treatment can be coordinated with the timber sale schedule and resource reviews have been completed. However, if there are no timber sales approved that can be coordinated with the large wood treatment, this would not be an option.

To minimize soil disturbance, this project proposes to fell trees using chainsaws and move them using a grip hoist or winch. No heavy equipment will be used. By relying solely on hand tools, chainsaws, grip hoists, and winches, there will be little to no ground disturbance compared to using heavy equipment, such as a logging skidder. And as mentioned above, a diversity of materials (live and dead trees) will provide more habitat diversity.

Project Design Features

Heavy equipment will not be used during implementation of this project.

Except for operational safety, live hemlock or white pine will not be felled during implementation of this project.

To avoid disturbing nesting raptors or herons and felling trees, which may contain nests, personnel conducting tree-felling activities scan the upper canopy of trees to be felled as well as adjacent trees for nests and listen/watch for bird species, which may show signs of distress/agitation due to proximity to active nests/territories. Work will be discontinued in areas where wildlife species have been observed exhibiting this behavior.

Avoid felling trees onto or dragging trees over visible rock outcrops, boulders and other potential timber rattlesnake basking/foraging habitat during implementation of this project.

Avoid felling/damaging any trees that contain cavities.

Resurvey all locations (Gurgling Run and Steck Run) previously identified as rough cotton-grass (*Eriophorum tenellum)* populations prior to ground disturbance. Surveys should be conducted from mid-June to mid-August to accurately identify plants in the *Eriophorum* genus to species. If rough cotton-grass is found, consult with the district botanist to avoid adverse impacts during implementation.

Findings Required by Other Laws and Regulations

This decision is consistent with the Allegheny National Forest Land and Resource Management Plan (or Forest Plan). The proposed activities are considered suitable in Management Area 2.2 and Management Area 3.0, and applicable Forest Plan standards and guidelines will be followed. This decision is consistent with all applicable NEPA procedures.

Administrative Review Opportunities

This decision is not subject to administrative review, appeal, or objection.

Implementation Date

This decision may be implemented immediately.

Contact

For additional information, please contact: Kevin Treese, Allegheny National Forest, Marienville Ranger District, 131 Smokey Lane, Marienville, PA 16239. Phone: 814-927-5759. E-mail: kevin.treese@usda.gov.

12/18/19

ROB FALLON
District Ranger

Date

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